QUALITY ASSURANCE SAMPLING PLAN
ADDENDUM #1
FOR
SBA SHIPYARDS SITE INSPECTION
JENNINGS, JEFFERSON DAVIS PARISH, LOUISIANA

Prepared For

U.S. Environmental Protection Agency Region 6
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1.0 INTRODUCTION

Dynamac Corporation (Dynamac), Superfund Technical Assessment and Response Team (START) is tasked by the U.S. Environmental Protection Agency (EPA), Region 6, under Technical Direction Document (TDD) No. TO-0009-12-10-02, to conduct an Expanded Site Inspection (ESI) at SBA Shipyards (CERCLIS No. LAD008434185), located in Jennings, Jefferson Davis Parish, Louisiana (LA).

This Quality Assurance Sampling Plan (QASP) addendum is prepared in partial fulfillment of the TDD. This QASP addendum is designed to guide field operations during collection of sediment and groundwater and describes Quality Assurance (QA) measures that will be implemented during the course of the ESI field activities.

2.0 OBJECTIVES

The objectives of the ESI, per the EPA Site Assessment Manager (SAM) are to:

1) determine background and down gradient levels of potential hazardous substances via collection of sediment samples from the Mermentau River.

2) collect groundwater samples from one monitoring well located in the site wetland area for chemical analysis to document contamination at the site; and

3) collect sediment samples from the contiguous wetlands for chemical analysis to document if a release has or is occurring.

3.0 BACKGROUND

Site background information is available in the *SBA Shipyard Quality Assurance Sampling Plan, May 30, 2013.*

4.0 FIELD OPERATIONS

4.1 Concept Of Operations

4.1.1 Schedule

Field work will tentatively occur the week of September 15, 2014 and is anticipated to require approximately six (6) days to complete; including mobilization and demobilization.

4.1.2 Health and Safety

Field activities will be conducted in accordance with EPA Standard Operating Procedures (SOPs), the Generic QAPP, and the site-specific Health and Safety Plan (HASP).

4.1.3 Site Access and Logistics

Access to the sample locations will be obtained by START and EPA.

4.2 Sampling Design

To accomplish the above-mentioned objectives, START will collect one groundwater from an existing on-site monitor well located in the wetland, three (3) sediment samples from the wetland area south of the on-site slips and docks, two sediments from Source 8, and seven (7) sediment samples from the Mermentau River (Figure 1) (Table 3)

START will collect sediment samples to further characterize the surface migration of contamination from the site to Mermentau River and the adjacent wetlands. Table 1 presents the anticipated number of samples, location descriptions, and proposed laboratory analyses. Figure 1 illustrates the proposed sample locations. Dedicated sampling equipment will be used wherever possible in an effort to eliminate any potential cross contamination concerns. All sampling activities will

be documented in a logbook and photographically using EPA Environmental Response Team (ERT) SOP #2002 as guidance.

4.2.1 Groundwater Sampling

Groundwater samples will be collected from one existing, on-site monitoring well (Figure 1). If the monitoring well is not functional, a sample will not be collected. Water quality parameters of pH, temperature, conductivity, dissolved oxygen and turbidity will be collected and recorded into the site-specific logbook. A sample will be collected after consistent readings.

The groundwater well sampling will be conducted using low-flow techniques in accordance with SOPs; specifically, the EPA ERT SOP # 2007 Groundwater Sampling (Appendix B).

The samples will be shipped to the Houston EPA laboratory for TCL constituents. Target compounds and reporting limits are from the current CLP low concentration statement of work (Table 1 and 2).

4.2.2 Sediment Sampling

Sediment samples will be collected from seven locations in the Mermentau River (background and downstream locations). Sediment samples from the Mermentau River will be collected using a VibraCore retrieval system collecting a two foot core from the sediment floor of the river. Cores will be visually observed for any staining. Debris in the top portion of the core will not be collected to eliminate biological and organic materials. Intervals of the core collected as sample will be documented and the sample will be transferred to sample containers.

Three sediment grab samples will be collected from the wetlands located south of the property with hand augers or PCV pipe creating a suction to lift

sediment as a core. Samples will be transferred to containers and processed for shipment to the laboratory.

Two sediment samples will be collected from Source 8. Sediment samples will be collected using a VibraCore retrieval system collecting a two foot core from the sediment floor of the river. Debris in the top portion of the core will not be collected to eliminate biological and organic materials. Intervals of the core collected as sample will be documented and the sample will be transferred to sample containers.

All samples will be grab samples. Target compounds, and reporting limits are from the current CLP low concentration statement of work (Table 1 and 2).

The samples collected will be sequentially labeled with the site identifier and a sequential sample number, e.g., SBA001 = SBA Shipyards sample 001. The sediment sampling will be conducted in accordance with SOPs; specifically, the SOP #2016 Sediment Sampling (Appendix A).

The sediment samples will be shipped to the Houston EPA laboratory for TCL analyses.

4.3 Analytical Parameters

Water and sediment samples will undergo chemical analysis by the Houston EPA laboratory for TCL analyses using EPA or CLP SOW methods. The requested turn-around time for analytical results and corresponding Staged Electronic Data Deliverable (SEDD) will be fourteen (14) calendar days. The analytical methods are specified in Table 2.

4.4 Sample Preservation

Sample preservation will be conducted utilizing procedures in the *Contract Laboratory Program Guidance for Field Samplers, August 2004* or EPA ERT SOP # 2003 Sample Storage, Preservation Handling. All of the collected samples will be stored at less than 4º C.

4.5 Sample Packaging and Shipping

No changes are incorporated into this section as part of the Addendum. Refer to *SBA Shipyard Quality Assurance Sampling Plan, May 30, 2013*.

4.6 Control of Contaminated Materials

No changes are incorporated into this section as part of the addendum. Refer to *SBA Shipyard quality assurance sampling plan, May 30, 2013.*

5.0 QUALITY CONTROL

No changes are incorporated into this section as part of the Addendum. Refer to *SBA Shipyard Quality Assurance Sampling Plan, May 30, 2013.*

6.0 RECONCILIATION WITH DATA QUALITY OBJECTIVES

No changes are incorporated into this section as part of the Addendum. Refer to *SBA Shipyard Quality Assurance Sampling Plan, May 30, 2013.*

7.0 DELIVERABLES AND PROJECT ORGANIZATION

No changes are incorporated into this section as part of the Addendum. Refer to *SBA Shipyard Quality Assurance Sampling Plan, May 30, 2013.*

TABLE 1
Sample Collection Summary

Sample Matrix	Sample Location	Analyses	Composites or Grab Samples	Trip Blank Samples	MS/MSD	Field Duplicates	Rinsates
On-site and off-site Sediment	12 locations	TCL	Grab	None	1 per 20 samples	1 per 10 samples	NA
Groundwater	1 location	TCL	Grab	None	1 per 20 samples	1 per 10 samples	NA

KEY
MS/MSD – Matrix Spike/Matrix Spike Duplicate
NA – Not applicable
TCL – Target Compound List

TABLE 2
SAMPLING and ANALYSIS SUMMARY

Matrix	Analytical Parameter	Analytical Method	Containers (Number, Size, and Type)	Preservation Requirements	No. of Samples	No. Field Duplicates	No. MS/MSD Pairs	No. of Equipment Rinsate Samples	No. of Trip Blanks	Total Number of Samples to Lab*
Sediments	TCL	EPA Regional Laboratory or current CLP SOW	1, 8 oz. glass jars	Cool to 4°C	12	2	1	0	0	14
Groundwater	TCL	EPA Regional Laboratory or current CLP SOW	1, 1-liter amber glass bottle	Cool to 4°C	1	1	1	0	0	2

Notes:

*Total number of samples to the laboratory does not include MS/MSD samples. However, please note that MS/MSD or spike/duplicate analysis may require additional sample volume.

KEY

°C - Degrees Celsius
CLP – Contract Laboratory Program
MS/MSD – Matrix Spike/Matrix Spike Duplicate
N/A – Not applicable
SOW – Statement of Work
TCL – Target Compound List

TABLE 3
PROPOSED SAMPLE LOCATIONS

Sample #	Media	Description
SBA-ESI-001	Sediment	Background sample
SBA-ESI-002	Sediment	Background sample
SBA-ESI-003	Sediment	From River at location likely to receive sediment from slip
SBA-ESI-004	Sediment	From River at location likely to receive sediment build up from dry dock (Source 9)
SBA-ESI-005	Sediment	Sediment sample from Source 8
SBA-ESI-006	Sediment	Sediment sample from Source 8
SBA-ESI-007	Sediment	From river at location likely to receive sediment build up from Source 8
SBA-ESI-008	Sediment	Along wetland boundary in River in area subject to sediment build up
SBA-ESI-009	Sediment	Down gradient in river along wetland boundary
SBA-ESI-010	Sediment	From Wetland near Source 6
SBA-ESI-011	Sediment	From Wetland near Source 6
SBA-ESI -012	Sediment	From Wetland near Source 6
SBA-ESI-0013	Groundwater	Monitoring Well located in Wetland

Table 4 DATA QUALITY OBJECTIVES SBA Shipyards ESI	
STEP 1. STATE THE PROBLEM	
Determine if CERCLA hazardous substances are present in the ground waters, sediments at the site and if they are migrating from the site to surface waters and ground waters.	
STEP 2. IDENTIFY THE DECISION	
If CERCLA hazardous substances are present in the ground water, sediments the site is eligible for HRS consideration. If CERCLA hazardous substances are present in the sediments, potential or actual releases to the HRS surface water pathway can be documented.	
IDENTIFY THE ALTERNATIVE ACTIONS THAT MAY BE TAKEN BASED ON THE DECISIONS.	If CERCLA hazardous substances are found in the ground water, sediments at the site, HRS evaluation of the site can be conducted. If CERCLA hazardous substances are found in the sediment of the Mermentau River and the wetlands south of the property, an observed release is documented; if not a potential release will be used for HRS evaluation.
STEP 3. IDENTIFY INPUTS TO THE DECISION	
IDENTIFY THE INFORMATIONAL INPUTS NEEDED TO RESOLVE A DECISION.	Ground water from the site; sediment samples from the site, background and drainage from the site. HRS Rule
IDENTIFY THE SOURCES FOR EACH INFORMATIONAL INPUT AND LIST THE INPUTS THAT ARE OBTAINED THROUGH ENVIRONMENTAL MEASUREMENTS.	HRS Rule is published. All sample results are environmental measurements
BASIS FOR THE CONTAMINANT SPECIFIC ACTION LEVELS.	HRS rule, background concentrations, sample CRQLs
IDENTIFY POTENTIAL SAMPLING TECHNIQUES AND APPROPRIATE ANALYTICAL METHODS.	Sediment samples will be collected using Vibra-Core and if necessary Ponar Dredge, and ground water samples will be collected using low flow pumps. Samples will be analyzed for TCL EPA methods utilized by the Houston EPA Lab or current CLP SOWs.
STEP 4. DEFINE THE BOUNDARIES OF THE STUDY	
DEFINE THE DOMAIN OR GEOGRAPHICAL AREA WITHIN WHICH ALL DECISIONS MUST APPLY.	The 98 acres that comprise the facility. The drainage pathways into the wetlands and its flow on the southeast side of the site.
SPECIFY THE CHARACTERISTICS THAT DEFINE THE POPULATION OF INTEREST.	The primary population of interest is the users of groundwater within the 4 mile TDL and the surface water and ecological receptors within the 15 mile TDL for the surface water pathway. The secondary population of interest is residents living within the 4 mile target distance limit for the air exposure pathway.
DEFINE THE SCALE OF THE DECISION MAKING.	Bounds of the samples collected.
DETERMINE THE TIMEFRAME TO WHICH THE DATA APPLY.	Results from this and subsequent potential investigations.
DETERMINE WHEN TO COLLECT THE DATA.	Sample collection will be conducted in September 2014.
IDENTIFY PRACTICAL CONSTRAINTS ON DATA COLLECTION.	START/EPA must obtain access agreements from property owners before sampling.
STEP 5. DEVELOP A DECISION RULE	
SPECIFY THE PARAMETER THAT CHARACTERIZES THE POPULATION OF	SVOCs, within the sediments of the river and site.

Table 4 DATA QUALITY OBJECTIVES SBA Shipyards ESI	
INTEREST.	
SPECIFY THE ACTION LEVEL FOR THE DECISION.	Contaminants present in the samples of sediment or water at the site. Concentration greater than SQL if not detected in the background samples, greater than 3 times the background concentration if detected in background samples.
DEVELOP A DECISION RULE.	If CERCLA hazardous substances are present at concentrations greater than their SQLs in the water, sediment samples collected at the site, sources will be evaluated using the HRS model. If the concentration of a hazardous substance at the site is greater than its SQL in the off-site sediments samples and the substance is not detected in background samples, a release to that pathway will be evaluated, or if a hazardous substance at the site is detected in the background sample and its concentration in the off-site sediment samples is greater than its SQL and 3 times greater that the concentration in the background sample, a release to that pathway will be evaluated, else no release can be documented.
STEP 6. SPECIFY THE LIMITS ON DECISION ERRORS	
DETERMINE THE POSSIBLE RANGE OF THE PARAMETER OF INTEREST.	Concentrations may range from less than SQL/reporting limit to greater than 10,000 ppm.
DEFINE BOTH TYPES OF DECISION ERRORS AND IDENTIFY THE POTENTIAL CONSEQUENCES OF EACH.	1. Deciding that the concentrations are below HRS criteria when they are actually greater. 2. Deciding that the concentrations are above HRS criteria when they are actually lower.
ESTABLISH THE TRUE STATE OF NATURE FOR EACH DECISION RULE.	1. Concentrations are greater than HRS criteria 2. Concentration are less than HRS criteria
DEFINE THE TRUE STATE OF NATURE FOR THE MORE SEVERE DECISION ERROR AS THE BASELINE CONDITION OR THE NULL HYPOTHESIS (H_o), AND DEFINE THE TRUE STATE FOR THE LESS SEVERE DECISION ERROR AS THE ALTERNATIVE HYPOTHESIS (H_a).	The more sever decision error is to decide that the concentrations are below HRS criteria when they are actually above criteria, Ho – Null hypothesis. Alternate hypothesis – H1 – concentrations are above HRS criteria when they are actually below criteria.
ASSIGN THE TERMS “FALSE POSITIVE” AND “FALSE NEGATIVE” TO THE PROPER DECISION ERRORS.	Ho = false negative H1 = false positive
ASSIGN THE PROBABILITY VALUES TO POINTS ABOVE AND BELOW THE ACTION LEVEL THAT REFLECT THE ACCEPTABLE PROBABILITY FOR THE OCCURENCES OF DECISION ERRORS.	Probability values not assigned at this time.
STEP 7. OPTIMIZE THE DESIGN	
REVIEW THE DQOs.	
DEVELOP GENERAL SAMPLING AND ANALYSIS DESIGN. The QASP that these DQOs are attached to reflect the sample and analysis design to meet these objectives.	

APPENDIX A

EPA ERT SOP No. 2016 – Sediment Sampling

APPENDIX B

EPA ERT SOP No. 2007 – Groundwater Well Sampling

FIGURE